Response to EPA Comments date 7/15/2015
Malone - EPA ER Injection Well Operation Procedures Memo
Malone Service Superfund Site
Texas City, TX

1) The 1990 no migration petition approval specified a minimum allowable specific gravity for the injected wastestream of 1.0. This constraint is not listed in Section 1.2 (page 1) for WDW-138 and Section 2.5 (page 4) for WDW-73. To ensure compliance with the expired 1990 no migration petition demonstration the wastestream specific gravity should remain within a range of 1.0 to 1.07, inclusive.
   Comment acknowledged and appropriate changes will be made to Section 1.2.

2) In the 2015 Mechanical Integrity Test (MIT) procedures for WDW-73 the Radioactive Tracer Survey (RAT) time drives for WDW-73 are being limited to 75 gpm in Attachment 2, WDW-73 page 4 step 15. Based on the revoked TCEQ (TWC) UIC permit the maximum allowed injection rate for WDW-73 is 200 gpm which is the limit being requested for WDW-73 in Section 2.5 (page 5). In order to ensure that the bottomhole cement has integrity at the maximum allowable injection rate being requested the RAT time drive for WDW-73 should be run at 200 gpm.
   The maximum injection rate of 200 gpm was only referenced in Section 2.5 as a permit requirement from the revoked TWC UIC permit. The operator has no intention to ever inject at the rate of 200 gpm and will not inject more than the permitted monthly volume of 3,285,000 gallons. The newly installed injection equipment at WDW-73 will only allow a maximum injection rate of approximately 150 gpm. It is also unknown if the formation will accept 200 gpm while remaining below the 1,300 psig maximum injection pressure. The operator respectfully requests the RAT time drive be run with a maximum injection rate of approximately 140 gpm with the newly installed injection equipment as long as the wellhead injection pressure is less than 1,200 psi.

3) In the 2015 Mechanical Integrity Test (MIT) procedures for WDW-138 the Radioactive Tracer Survey (RAT) time drives for WDW-138 are being limited to 70 gpm in Attachment 2, WDW-138 page 3 step 15. Based on the revoked TCEQ (TWC) UIC permit the maximum allowed injection rate for WDW-138 is 200 gpm which is the limit being requested for WDW-138 in Section 1.2 (page 1). In order to ensure that the bottomhole cement has integrity at the maximum allowable injection rate the RAT time drive for WDW-138 should be run at 200 gpm.
   The maximum injection rate of 200 gpm was only referenced in Section 1.2 as a permit requirement from the revoked TWC UIC permit. The operator has no intention to ever inject at the rate of 200 gpm and will not inject more than the permitted monthly volume of 4,380,000 gallons. The existing injection equipment will only allow the maximum injection rate of approximately 125 gpm. The primary driving force for fluids moving out of the injection interval is pressure. WDW138 TCEQ (TWC) UIC revoked permit limited the well to a maximum wellhead pressure of 1,100 psi. Current injection data has displayed that the injection formation of WDW-138 will only accept 65-70 gpm with an injection pressure of 960 psig. Increasing the flow rate higher than 70 gpm will pose a threat to surpassing the permitted injection pressure of 1,100 psig. The operator respectfully requests that the RTS time drive be run at the originally requested 70 gpm or

the maximum rate with a wellhead pressure less than 1,000 psig due to the recent high injection pressures displayed during injection.

Due to high injection pressure, the operator does not believe that the instantaneous injection rate should be limited to the rated used for the present RTS. The operator request the ability to inject at the maximum instantaneous rate of the injection facilities, which is in the range of 125 gpm, as long as the wellhead injection pressure is less than the permitted injection pressure of 1,100 psig. The operator does not want to be limited to the 70 gpm for all future operations. The operator may elect to perform a well cleanout or stimulation in the future to increase the injection rate.

4) For the WDW-73 pressure falloff test prepare a log-log plot of each injection rate step using wellhead pressure data. Record flowrates to confirm injection rate is reasonably constant. Provide a digital copy of injection pressure and rate data to EPA for review at the end of the injection period.
Comments acknowledged and appropriate changes will be made to falloff test procedures.

5) For the WDW-73 pressure falloff test note that the rate history will impact the shape of the falloff response on the log-log plot. If the injection period is much shorter than the proposed falloff period then falloff data, when properly plotted, will be greatly compressed. If several injection rate steps occur prior to the falloff then a superposition analysis should be used to review the falloff test data.
Comments acknowledged and appropriate changes will be made to falloff test procedures.